

- Bond, D. R., **J. B. Russell**. (2000) Protonmotive force regulates the membrane conductance of *Streptococcus bovis* in a non-Ohmic fashion. *Microbiology* 164: 687-694.
- Broderick, G. A., R. P. Walgenbach**, E. Sterrenburg. (2000) Performance of lactating dairy cows fed alfalfa or red clover silage as the sole forage. *J. Dairy Sci.* 83: 1543-1551.
- Broderick, G. A.**, N. De Leon, Y. Nakamura. (2000) Potential of fermentation byproducts as nitrogen supplements for lactating dairy cows. *J. Dairy Sci.* 83: 2548-2556.
- Brouwer, J., **J. M. Powell**. (2000) Micro-topography and leaching: possibilities for making more efficient use of agricultural nutrients. *Agric. Ecosys. Environ.* 71:229-239.
- Bunzel, M., **J. Ralph, J.M. Marita**, H. Steinhart. (2000) Identification of 4-O-5'-coupled diferulic acid from insoluble cereal fiber. *J. Agric. Food Chem.* 48(8): 3166-3169.
- Callaway, T. R., **J. B. Russell**. (2000) Variations in the ability of ruminal gram-negative *Prevotella* species to resist monensin. *Curr. Microbiol.* 40:185-190.
- Diez-Gonzalez, F., G. N. Jarvis, D.A. Adamovich, **J.B. Russell**. (2000) Use of carbonate and alkali to eliminate *Escherichia coli* from dairy cattle manure. *Environ. Sci. Technol.* 34:225-233.
- Fields, M. W., S. Mallik, **J.B. Russell**. (2000) *Fibrobacter succinogenes* S85 ferments ball-milled cellulose as fast as cellobiose until cellulose surface area is limiting. *Appl. Microbiol. Biotechnol.* 54:570-574.
- Fields, M. W., **J. B. Russell**, D.B. Wilson. (2000) The role of ruminal carboxymethylcellulases in the degradation of beta-glucans from cereal grain. *FEMS Microbial Ecol.*
- Fields, M. W., **J. B. Russell**. (2000) Alternative pathways of glucose transport in *Prevotella bryantii* B14. *FEMS Lett.* 183:147-152.
- Grabber, J. H., J. Ralph, R.D. Hatfield**. (2000) Cross-linking of maize walls by ferulate dimerization and incorporation into lignin. *J. Agric. Food Chem.* 48(12): 6106-6113.
- Han, J. K., K. A. Albrecht, **D.R. Mertens**, D.A. Kim. (2000) Comparison of in vitro digestion kinetics of cup-plant and alfalfa. *Asian-Aus. J. Anim. Sci.* 13:641-644.
- Jarvis, G. N., M. G. Kizolis, F. Diez-Gonzalez, **J.B. Russell**. (2000) The genetic diversity of predominant *Escherichia coli* strains isolated from cattle fed various amounts of hay and grain. *FEMS Microbiol. Ecol.* 32:225-233.
- Jung, H.**, M. A. Jorgensen, J.G. Linn, F.M. Engels. (2000) Impact of accessibility and chemical composition on cell wall polysaccharide degradability of maize and lucerne stems. *J. Sci. Food Agric.* 80:419-427.

- Kim, Y.-J., R. H. Lui, D.R. Bond, **J.B. Russell**. (2000) The effect of linoleic acid concentration on the conjugated linoleic acid (CLA) production of *Butyrivibrio fibrisolvens* A38. *Appl. Environ. Microbiol.* 66:5226-5230.
- Kim, H., **J. Ralph**, N. Yahiaoui, M. Pean, A-M. Boudet. (2000) Cross-coupling of hydroxycinnamyl aldehydes into lignins. *Org. Lett.* 2(15):2197-2200.
- Maglione, G., **J. B. Russell**. (2000) The adverse effect of nitrogen limitation and excess cellobiose on *Fibrobacter succinogenes* S85. *Appl. Microbiol. Biotechnol.*
- Martin, N. P.** (2000) Opportunities for biotech traits in alfalfa down on the farm. P. 401-408. *In Proc of the 2000 Forage and Grassland Conference*, Madison, WI. American Forage and Grassland Council.
- Martin, N. P., Koegel, R.G.** (2000) Value-added traits of alfalfa. P. 237-244 *In Proc 29th National Alfalfa Symposium and 30th California Alfalfa Symposium*, Las Vegas, NV.
- Mertens, D. R., N. P. Martin** (2000). Achieving uniformity in forage testing reports. 2000 NFTA Ann. Meeting, Omaha, NE.
- Meyermans, H., K. Morreel, C. Lapierre, P. Pollet, A. De Bruyn, R. Busson, P. Herdewijn, B. Devreese, J. Van Beeumen, **J.M. Marita, J. Ralph**, C. Chen, B. Burggraeve, M. Van Montagu, E. Messens, W. Boerjan. (2000) Modifications in lignin and accumulation of phenolic glucosides in poplar xylem upon down-regulation of caffeoyl-coenzyme A *O*-methyltransferase, an enzyme involved in lignin biosynthesis. *J. Biol. Chem.* 275(47):36899-36909.
- Mozaffari, M., C. J. Rosen, **M.P. Russelle**, E.A. Nater. (2000) Corn and soil response to application of ash generated from gasified alfalfa stems. *Soil Sci.* 165(11):896-907.
- Mozaffari, M., C.J. Rosen, **M.P. Russelle**, E.A. Nater (2000) Chemical characterization of ash from gasification of alfalfa stems: Implications for ash management. *J. Environ. Qual.* 29:963-972.
- Muck, R.E.** (2000) Immediate use of forage from a silo and its effect on quality. ASAE Paper No. 00-1035, 2000 ASAE Annual International Meeting. ASAE, Milwaukee, WI. Pp. 15.
- Muck, R. E.**, B. J. Holmes. (2000) Factors affecting bunker silo densities. *Applied Eng. in Agric.* 16(6):613-619.
- Powell, J. M.**, R. A. Pearson, J.N. Hopkins. (2000) Impacts of livestock on crop production. Conf. on Food, Lands and Livelihoods - Setting the Research Agendas for Animal Science, British Society of Animal Science Occasional Publication No. 21 pp. 53-66.
- Powell, J. M., Z. Wu, L.D. Satter.** (2000) Dairy diet effects on phosphorus cycles of cropland. *J. Soil and Water Conserv.* 56:22-26.

- Ralph, J., M. Bunzel, J.M. Marita, R.D. Hatfield, F. Lu, H. Kim, J.H. Grabber, S. Ralph, G. Jimenez-Monteon, H. Steinberg.** (2000) Diferulates analysis: new diferulates and disinapates in insoluble cereal fiber. *PolyphÈnols ActualitÈs* 19: 13-17.
- Rotz, A. C., **Martin, N.P. Grabber, J.H.** (2000) Crop options for an expanding dairy farm in Wisconsin. P. 100-104. In Proc of the 2000 Forage and Grassland Conference, Madison, WI. American Forage and Grassland Council.
- Russell, J. B.,** F. Diez-Gonzalez. (2000) The fermentation acids on bacterial growth. *Adv. Microbiol. Physiol.*
- Russell, J. B.,** F. Diez-Gonzalea, G.N. Jarvis. (2000) Potential effect of cattle diets on the transmission of pathogenic *Escherichia coli* to humans. *Microbes and Infection* 2:45-53.
- Russell, J. B.,** F. Diez-Gonzalez, G.N. Jarvis. (2000) Effects of diet shifts on *Escherichia coli* in cattle. *J. Dairy Sci.* 83:863-873.
- Russell, J. B.,** J. L. Rychlik. (2000) The isolation characterization and enumeration of hyperammonia producing ruminal bacteria. *J. Animal Sci.* 13:121-127.
- Russell, J. B.** (2000) Rumen Fermentation. Encyclopedia of Microbiology. New York, Academic Press.
- Russell, J. B.** (2000) Hay, grain, and *E. coli* revisited. *ASM news* 66:1.
- Russelle, M.P.** (2000) What to do with manure pond water: Alfalfa can help shoulder the load, especially in the case of nitrates. *Hoard's Dairyman West*. July:W92-W93.
- Rychlik, J. L., **J. B. Russell.** (2000) Mathematical estimations of hyper-ammonia producing ruminal bacteria and evidence for bacterial antagonism that decreases ruminal ammonia production. *Microbiol. Ecol.* 32:121-128.
- San Emeterio, F., R. B. Reis, W.E. Campos, **L.D. Satter.** (2000) Effect of coarse or fine grinding on utilization of dry or ensiled corn by lactating dairy cows. *J. Dairy Sci.* 83:2839-2848.
- Satter, L. D., Z. Wu, J.M. Powell.** (2000) Reduction of nitrogen and phosphorus in dairy manure by diet manipulation. P. 31-52. In. California Animal Nutrition Conference. May 10-11, Fresno, CA. PM Ag Products, Davis, California.
- Satter, L. D., Z. Wu.** (2000) New work confirms that we can trim phosphorus feeding. *Hoard's Dairyman*: 348.
- Satter, L. D., Z. Wu.** (2000) Full crediting of manure nutrients essential in future. *Feedstuffs*: 11-15.
- Seguin, P., **M. P. Russelle**, C.C. Sheaffer, N.J. Ehlke, P.H. Graham. (2000) Dinitrogen fixation in Kura clover and birdsfoot trefoil. *Agron. J.* 92:1216-1220.

- Sheaffer, C. C., **Martin, N.P.**, Lamb, J.F.S., Cuomo, G.R., Jewett, J.G., Quering, S.R. (2000) Leaf and stem properties of alfalfa entries. *Agron. J.* 92(4):733-739.
- Sheaffer, C. C., **N. P. Martin**, J.F.S. Lamb, G.R. Cuomo, J.G. Jewett, S.R. Quering. (2000) Leaf and stem properties of alfalfa entries. *Agron. J.* 92(4):733-739.
- Teceschi, L. O., D. G. Fox, **J.B. Russell**. (2000) Accounting for the effects of a ruminal nitrogen deficiency within the structure of the Cornell Net Carbohydrate and protein system. *J. Animal Sci.* 78:1648-1658.
- Valadares Filho, S. C., **G. A. Broderick**, R.F.D. Valadares, M.K. Clayton. (2000) Effect of replacing alfalfa silage with high moisture corn on nutrient utilization and milk production. *J. Dairy Sci.* 83:106-114.
- Weimer, P. J.**, J. M. Hackney, **H. Jung, R.D. Hatfield**. (2000) Fermentation of a bacterial cellulose/xylan composite by mixed ruminal microflora: Implications for the role of polysaccharide matrix interactions in plant cell wall biodegradability. *J. Ag. and Food Chem.* 48:1727-1733.
- Wells, J. E., D. O. Krause, T.R. Callaway, **J.B. Russell**. (2000) A bacteriocin-mediated antagonism by ruminal lactobacilli against *Streptococcus bovis*. *FEMS Microbiol. Ecol.*
- Wu, Z., **L. D. Satter**. (2000) Milk production during the complete lactation of dairy cows fed diets containing different amounts of protein. *J. Dairy Sci.* 83:1028-1041.
- Wu, Z., **L. D. Satter**. (2000) Milk production and reproductive performance of dairy cows fed two concentrations of phosphorus for two years. *J. Dairy Sci.* 83:1042-1051
- Wu, Z., **L. D. Satter**, R. Sojo. (2000) Milk production, reproductive performance, and fecal excretion of phosphorus by dairy cows fed three amounts of phosphorus. *J. Dairy Sci.* 83:1052-1063.
- Arthurs, C. E., G. N. Jarvis, **J.B. Russell**. (2001) The effect of various carbonate sources on the survival of *Escherichia coli* in dairy cattle manure. *Curr. Microbiol.* 43: 220-224.
- Ball, D., Collins, M., Lacefield, G., **Martin, N.**, **Mertens, D.**, Olson, K., Putnam, D., Undersander, D., Wolf, M. (2001) Understanding forage quality. *Am. Farm Bureau Fed. Publ.* 1-01. 17 p.
- Broderick, G. A., R. P. Walgenbach**, S. Maignan. (2001) Production of lactating dairy cows fed alfalfa or red clover silage at equal dry matter or crude protein contents in the diet. *J. Dairy Sci.* 84:1728-1737.
- Broderick, G. A.** (2001) Red clover silage boasts benefits over alfalfa silage. *Agric. Res.* 49:7.
- Bundy, L. R., T. W. Andraski, **J.M. Powell**. (2001) Management practice effects on phosphorus losses in runoff in corn production systems. *J. Environ. Qual.* 30: 1822-28.

- Bunzel, M., **J. Ralph, J.M. Marita, R.D. Hatfield**, H. Steinhart (2001). Diferulates as structural components in soluble and insoluble cereal dietary fibre. *J. Sci. Food Agric.* 81(7):653-660.
- Chabannes, M., A. Barakate, C. Lapierre, **J.M. Marita, J. Ralph**, M. Pean, S. Danoun, C. Halpin, J. Grima-Pettenati, A-M. Boudet. (2001) Strong decrease in lignin content without significant alteration of plant development is induced by simultaneous down-regulation of cinnamoyl CoA reductase (CCR) and cinnamyl alcohol dehydrogenase (CAD) in tobacco plants. *Plant J.* 28(3):257-270.
- Chen, J., **P.J. Weimer**. (2001) Competition among three predominant ruminal cellulolytic bacteria in the absence or presence of non-cellulolytic bacteria. *Microbiology* 147:21-30.
- Fields, M. W., **J. B. Russell**. (2001) The glucomannokinase of *Prevotella bryantii* B14 and its potential role in regulating *B*-glucanase expression. *Microbiology* 147: 1035-1043.
- Fukushima, R. S., **R. D. Hatfield**. (2001) Extraction and Isolation of Lignin for Utilization as a Standard to Determine Lignin Concentration Using the Acetyl Bromide Spectrophotometric Method. *J. Agric. Food Chem.* 49(7):3133-3139.
- Hatfield, R. D.**, W. Vermerris. (2001) Lignin formation in plants. The dilemma of linkage specificity. *Plant Physiol., Suppl.* S. 126:1351-1357.
- Huggins, D. R., G. W. Randall, **M.P. Russelle**. (2001) Subsurface Drain Losses of Water and Nitrate following Conversion of Perennials to Row Crops. *Agron. J.* 93(3):477-486.
- Jarvis, G. N., M. W. Fields, C.E. Arthurs, D.A. Adamovich, **J.B. Russell**. (2001) The mechanism of carbonate killing in *Escherichia coli*. *Lett. Appl. Microbiol.* 33: 196-200.
- Jarvis, G. N., A. Kurtovic, A.G. Hay, **J.B. Russell**. (2001) The physiological and genetic diversity of bovine *Streptococcus bovis* strains. *Microbiol. Ecol.* 35:49-56.
- Jarvis, G. N., **J. B. Russell**. (2001) Differences in *Escherichia coli* culture conditions can have a large impact on the induction of extreme acid resistance. *Curr. Microbiol.* 43:215-219.
- Lana, R. P., **J. B. Russell**. (2001) Effects of monensin on fermentation and sensitivity of ruminal bacteria from bovines fed high concentrate or forage diets. *Rev. Bras. Zootec* 30:254-260.
- Mantovani, H. C., D. K. Kam, J.K. Ha, **J.B. Russell**. (2001) The antibacterial activity and sensitivity of *Streptococcus bovis* strains isolated from the rumen of cattle. *FEMS Microbiol. Ecol.* 37:223-229.
- Mantovani, H. C., **J. B. Russell**. (2001) The nisin resistance of *Streptococcus bovis*. *Appl. Environ. Microbiol.* 67:808-813.
- Marita, J., J. Ralph**, C. Lapierre, L. Jouanin, W. Boerjan. (2001) NMR characterization of lignins in poplar altered in caffeic O-methyltransferase (COMT) activity. *J. Chem. Soc., Perkin Trans. 1* 22:2939-2945.

- Martin, N. P.** (2001) Forage quality for optimum growth & production. P. 77-86. *In Proc Manitoba Dairy/Forage/Beef Opportunities Conference, Winnipeg, Manitoba.*
- Martin, N. P.** (2001) Current & new technologies for assessing forage quality. P. 159-172. *In Proc Manitoba Dairy/Forage/Beef Opportunities Conference, Winnipeg, Manitoba.*
- Martin, N. P.** (2001) Opportunities to expand forage production and use in Minnesota. P. 1-10. *In Proc of the 26th Annual Minnesota Forage Conference, Detroit Lakes, MN. Minnesota Forage and Grassland Council.*
- Martin, N. P.** (2001) Use of harvest alert programs to cut alfalfa early. P. 17-26. *In Proc of the 26th Annual Minnesota Forage Conference, Detroit Lakes, MN. Minnesota Forage and Grassland Council.*
- Martin, N. P.** (2001) Alfalfa hay quality-sampling-testing-marketing. P. 17-32. *In Proc 21st Kentucky Alfalfa Conference, Cave City, KY.*
- Martin, N. P., Mertens, D.M., Muck, R.E.** (2001) Forage sampling techniques. P. 100-106. *In Proc of the 2001 Forage and Grassland Council, Springdale, Arkansas. American Forage and Grassland Council.*
- Mourino, F., R. Akkarawongsa, **P.J. Weimer**. (2001) Initial pH as a determinant of cellulose digestion rate by mixed ruminal microorganisms in vitro. *J. Dairy Sci.* 84:848-859.
- Muck, R. E., B. J. Holmes.** (2001) Density and losses in pressed bag silos. ASAE Paper No. 01-1091. ASAE Annual International Meeting, Sacramento, CA.
- Muck, R.E., K.J. Shinners.** (2001) Conserved forage (silage and hay): progress and priorities. *Proceedings of the XIX International Grassland Congress, Sao Pedro, Brazil.* Pp. 753-762.
- Muscato, T. V., **J. B. Russell**. (2001) Ruminal fluid inoculation of calves. U.S. Patent # 6, 296,879, B1. US.
- Powell, J. M., K. A. Kelling, G.R. Munoz** (2001). Comparison of dairy manure nitrogen availability using various methods. Pp. 340-347. *In Proc of the 2001 Wisconsin Fertilizer, Aglime & Pest management Conference, Madison, WI, January 16-18, 2001.*
- Powell, J. M., Z. Wu, L.D. Satter.** (2001) Dairy diet effects of phosphorus cycles of cropland. *J. Soil and Water Conserv.* 56(1):22-26.
- Putnam, D., **M.P. Russelle**, S. Orloff, J. Kuhn, L. Fitzhugh, L. Godfrey, A. Kiess, R. Long. (2001) Alfalfa, wildlife and the environment: The importance and benefits of alfalfa in the 21st century. California Alfalfa and Forage Assn. Novato, CA. 24pp.
- Ralph, J., C. Lapierre, J.M. Marita, H. Kim, F. Lu, R.D. Hatfield, S.A. Ralph, C. Chapple, R. Franke, M.R. Hemm, J. Van Doorsselaere, R.R. Sederoff, D.M. O'Malley, J.T. Scott.** (2001)

Elucidation of new structures in lignins of CAD- and COMT-deficient plants by NMR.
Phytochem. 57(6):993-1003.

Ralph, J., C. Lapierre, F. Lu, J.M. Marita, G. Pilate, J. Van Doorsselaere, W. Boerjan, L. Jouanin. (2001) NMR evidence for benzodioxane structures resulting from incorporation of 5-hydroxyconiferyl alcohol into lignins of *O*-methyl-transferase-deficient poplars. J. Agric. Food Chem. 49(1):86-91.

Ralph, S.A.; Landucci, L.L., **Ralph, J.** (2001) NMR database of lignin and cell wall model compounds. Available over Internet at <http://www.dfrc.ars.usda.gov/software.html>

Reis, R. B., F. San Emeterio, D.K. Combs, **L.D. Satter**, H.N. Costa. (2001) Effects of corn particle size and source of performance of lactating cows fed direct-cut grass-legume forage. J. Dairy Sci. 84:429-441.

Ruiz, R., G. L. Albrecht, L.O. Tedeschi, G.N. Jarvis, **J.B. Russell**, D.G. Fox. (2001) Effect of monensin on the performance and nitrogen utilization of lactating dairy cows consuming fresh forage. J. Dairy Sci. 84:1717-1727.

Russell, J. B., G. N. Jarvis. (2001) Practical mechanisms for interrupting the oral fecal lifecycle of *Escherichia coli*. J. Mol. Microbiol. Biotechnol. 3:265-272.

Russell, J. B., J. L. Rychlik. (2001) Factors that alter rumen microbial ecology. Science 292:1119-1122.

Russelle, M. P., J. F. S. Lamb, B.R. Montgomery, D.W. Elsenheimer, B.S. Miller, C.P. Vance. (2001) Alfalfa rapidly remediates excess inorganic nitrogen at a fertilizer spill site. J. Environ. Qual. 30(1):30-36.

Russelle, M. (2001) After an 8,000-year journey, the “Queen of Forages” stands poised to enjoy renewed popularity. Am. Scientist 89(May-June):252-261.

Russelle, M., M.Schmitt, C. Hasthorpe, **J.M. Powell**. (2001) What do you know and what will you do about phosphorus. A survey of dairy farmers. Proc. 2001 Wisc. Fertilizer, Aglime, & Pest Management Conf. 40:43-44.

Satter, L. D. (2001) Phosphorus in, Phosphorus out. Changing dairy cow diets reduce environmental problems. Resource: 13-14.

Seguin, P., P. H. Graham, C.C. Sheaffer, N.J. Ehlke, **M.P. Russelle**. (2001) Genetic diversity of rhizobia nodulating *trifolium ambiguum* in North America. Can. J. Microbiol. 47:81-85.

Seguin, P., C.C. Sheaffer, N.J. Ehle, **M.P. Russelle**, P.H. Graham. (2001) Nitrogen fertilization and rhizobial inoculation effects on Kura clover growth. Agron. J. 93:1262-1268.

Sreenath, H., A. Moldes, **R. Koegel**, R. Straub. (2001) Lactic acid production from agriculture residues. Biotech. Lett. 23:179-184.

- Sreenath, H., A. Moldes, **R. Koegel**, R. Straub. (2001) Lactic acid production by simultaneous saccharification and fermentation of alfalfa fiber. *J. Biosci. and Bioeng.* 92(6):518-523.
- Stange, R. R., **J. Ralph, J. Peng**, J. Sims, S. Midland, R. McDonald. (2001) Acidolysis and hot water extraction provide new insights into the composition of induced “lignin-like” material from squash fruit. *Phytochemistry* 57(6):1005-1011.
- Weimer, P.J.** (2001) Microbiology of the dairy animal, P. 1-58 In: Marth, E.H., and Steele, J.L. *Applied Dairy Microbiology*, 2nd ed., Marcel Dekker, New York
- Weimer, P. J.**, S. M. Abrams. (2001) In vitro fermentation of polydextrose by bovine ruminal microorganisms. *Ani. Feed Sci. and Technol.* 93:115-123.
- Wu, Z., **L. J. Massingill, R.P. Walgenbach, L.D. Satter**. (2001) Cracked dry or finely ground high moisture shelled corn as a supplement for grazing cows. *J. Dairy Sci.* 84:2227-2230.